

For MT8820A Radio Communication Analyzer

MX882004A

PDC Measurement Software



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PDC Measurement Software

Solution for PDC mobile terminal production lines

The MX882004A PDC Measurement Software supports transmit/receive measurements of mobile terminals conforming to the PDC system, the most common system in Japan. By installing the MX882004A PDC Measurement Software in the MT8820A mainframe, one unit can evaluate major transmission/reception characteristics of common digital mobile terminals used in Japan.

Advanced DSP and parallel measuring technologies greatly reduce manufacturing and test time for mobile terminals. In addition, multiple measurement items can be selected freely for batch processing while the number of repetitive measurements can be set for each individual measurement. The selected measurement items can be batch-measured with just one touch, thus a pass/fail evaluation on major test items such as transmission frequency, modulation accuracy, transmission power, adjacent channel leakage power & BER can be conducted simply and quickly.

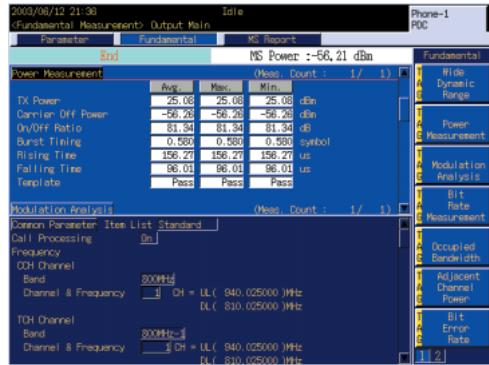
It can be built into automated production lines and can create an automated on-site maintenance test system as the GPIB interface is equipped as standard.



Transmission Measurement

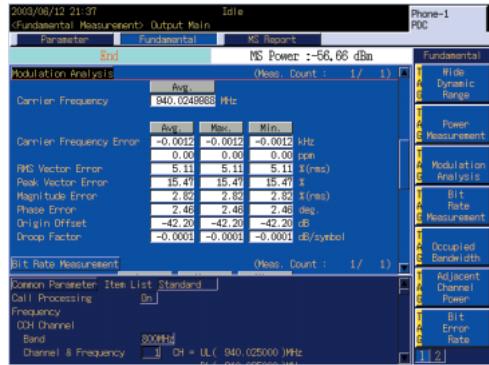
Transmission Power

Transmission power for a PDC terminal is measured. Maximum, average and minimum values of measured results are indicated by setting the number of repetitive measurements to 2 or above, so the variations in terminal characteristics can be assessed. This repetitive measurement function is also equipped for other measurements.



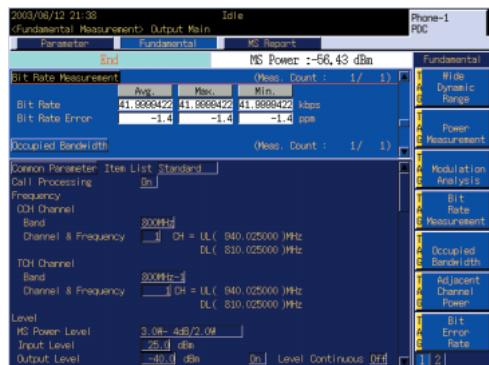
Modulation Accuracy

Frequency, frequency errors (in kHz & ppm), modulation accuracy, phase error, amplitude error and origin offset of a PDC terminal are measured simultaneously.



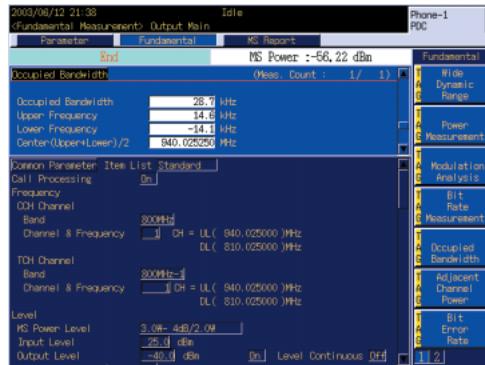
Transmission Speed

Transmission speed and transmission speed error of a PDC terminal can be measured.



Occupied Bandwidth

Occupied bandwidth of a PDC terminal is measured. The bandwidth ratio for total power can be changed within the range of 80.0 to 99.9%. Supports measurements in the high-speed mode.



Adjacent Channel Power

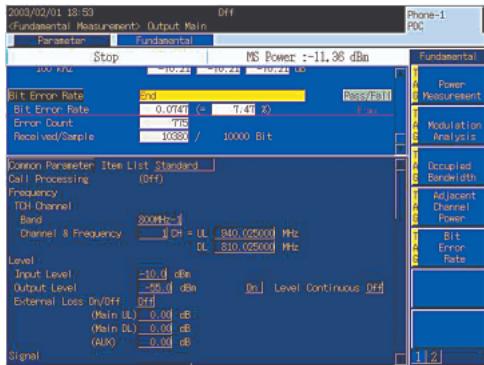
Adjacent channel power of a PDC terminal is measured. Measures power spectrum at 4 frequency points, -100 kHz, -50 kHz, +50 kHz and +100 kHz, offset from the carrier frequency. Advanced DSP technology and parallel processing of power spectrum with other measurements enable high-speed measurement.



Reception Measurement

Error Rate Test

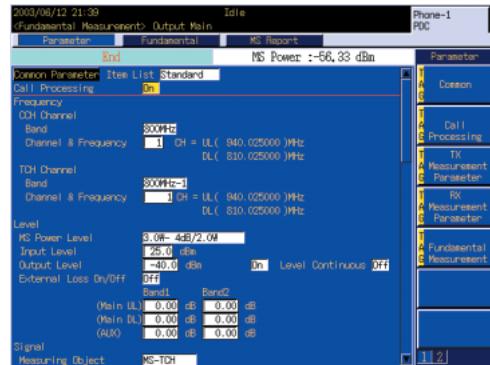
Bit error rate can be measured on receipt of demodulation data and clocks output from a PDC terminal by controlling the PDC terminal with an external PC. This measurement can be performed in parallel with transmitter measurements.



Call Processing Function

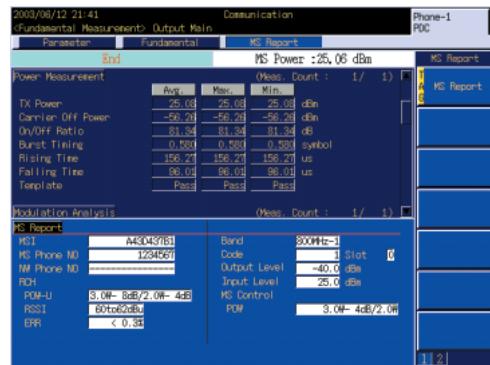
Connection Test

The call processing function enables performance of various connection tests including location registration, terminal call origination, network call origination, disconnection from mobile terminal and disconnection from network.



Mobile Terminal Report Monitor

PDC terminal status can be displayed based on the measurement report that the mobile terminal sends back to the tester. "RCH RSSI" monitoring shows the downlink RF signal level received by the PDC terminal.



High-speed, User-friendly GPIB Controls

Eliminating Dependence on Measurement Screen

Readout and changes of settings can be performed freely without having to change screens, even when no items that exist on screen are currently being displayed. This controls loss time effects, critical to screen plotting

Batch Measurement Results Readout Command

All results for batch measurements can be read out with one "ALLMEAS?" command. In addition, the desired measurement results can be selected for readout by specifying measurement targets such as "ALLMEAS? MOD" (Modulation Analysis). Decreases in the number of GPIB commands lower the load for the MT8820A and controller PC while enhancing measurement throughput. Since the step size of a control program is reduced, it's effective in creating a control program with high maintainability that's easy to view.

Specifications

• MT8820A-02 TDMA Measurement Hardware, MX882004A PDC Measurement Software

Frequency/Modulation measurement	<p>Frequency: 300 to 2200 MHz Input level range: –30 to +40 dBm (measurement object: TCH), –30 to +35 dBm (measurement object: UPCH continuous wave) Measurement items: TCH, UPCH, continuous wave Carrier frequency accuracy: \pm (reference oscillator accuracy + 1 Hz) Modulation accuracy: \pm (2% of indicated value + 0.7%) rms Origin offset accuracy: \pm0.5 dB (relative to signal of –30 dBc) Transmission rate: \pm1 ppm (measurement range: 42 kbps \pm100 ppm)</p>
Amplitude measurement	<p>Frequency range: 300 to 2200 MHz Input level range: –30 to +40 dBm (measurement object: TCH), –30 to +35 dBm (measurement object: UPCH continuous wave) Measurement items: TCH, UPCH, continuous wave Measurement accuracy: \pm0.5 dB (–20 to +40 dBm), \pm0.7 dB (–30 to –20 dBm) *After calibration Linearity: \pm0.2 dB (0 to –40 dB, \geq–30 dBm) Power measurement range at carrier off: \geq65 dB (input level: \geq–10 dBm), \geq (Amplitude measurement value [dBm] + 80) dB (wide dynamic range power measurement)</p>
Occupied bandwidth measurement	<p>Frequency range: 300 to 2200 MHz Input level range: –10 to +40 dBm (measurement object: TCH), –10 to +35 dBm (measurement object: UPCH continuous wave) Measurement items: TCH, UPCH, continuous wave</p>
Adjacent channel power measurement	<p>Frequency range: 300 to 2200 MHz Input level range: –10 to +40 dBm (measurement object: TCH), –10 to +35 dBm (measurement object: UPCH continuous wave) Measurement items: TCH, UPCH, continuous wave Measurement range: \leq–60 dB (50 kHz offset), \leq–65 dB (100 kHz offset)</p>
RF signal generator	<p>Output frequency: 300 to 2200 MHz, 1 Hz step Modulation accuracy: \leq3%rms Modulation data Continuous wave output: PN9, PN15 and repetition of arbitrary 4-bit data Burst wave output: PN9, PN15</p>
Error rate measurement	<p>Function: Bit error rate measurement Measurement items: Serial data inputted from the Call Proc. I/O terminal of a back panel</p>
Call processing	<p>Call control: Location registration, call origination, call termination, communication, disconnection from network, disconnection from mobile terminal Mobile terminal control: Output level, time slot, time alignment</p>
Channel coding	Full rate, Half rate
Frequency band	800 MHz-1, 800 MHz-2, 800 MHz-3, 1.5 GHz

Ordering Information

Please specify the model/order number, name, and quantity when ordering.

Model/Order No.	Name
MT8820A	Main frame Radio Communication Analyzer Standard accessories Power cord, 2.6 m : 1 pc CF card (64 MB) : 1 pc PC card adapter : 1 pc MT8820A/MT8815A operation manual (CD-ROM) : 1 copy Options MT8820A-01 W-CDMA Measurement Hardware MT8820A-02 TDMA Measurement Hardware MT8820A-03 CDMA2000 Measurement Hardware MT8820A-04 1xEV-DO Measurement Hardware MT8820A-11 Audio Board MT8820A-12 Parallel Phone Measurement Hardware MT8820A-21 W-CDMA Measurement Hardware retrofit MT8820A-22 TDMA Measurement Hardware retrofit MT8820A-23 CDMA2000 Measurement Hardware retrofit MT8820A-24 1xEV-DO Measurement Hardware retrofit MT8820A-31 Audio Board retrofit MT8820A-32 Parallel Phone Measurement Hardware retrofit Softwares MX882000B W-CDMA Measurement Software (requires MT8820A-01 and MX88205xA) MX882000B-01 W-CDMA Voice Codec (requires MT8820A-11 and MX882000B) MX882000B-11 HSDPA Measurement Software (requires MT8820A-01, MX882000B and MX882050A) MX882001A GSM Measurement Software (requires MT8820A-02) MX882001A-01 GSM Voice Codec (requires MT8820A-11 and MX882001A) MX882001A-02 GSM External Packet Data (requires MX882001A) MX882001A-11 EGPRS Measurement Software (requires MX882001A) MX882002A CDMA2000 Measurement Software (requires MT8820A-03) MX882002A-02 CDMA2000 External Packet Data (requires MX882002A) MX882003A 1xEV-DO Measurement Software (requires MT8820A-03, MT8820A-04 and MX882002A) MX882003A-02 1xEV-DO External Packet Data (requires MX882003A) MX882004A PDC Measurement Software (requires MT8820A-02) MX882005A PHS Measurement Software (requires MT8820A-02) MX882005A-11 ADVANCED PHS Measurement Software (requires MX882005A) MX882010A Parallel Phone Measurement Software* ¹ [requires MT8820A-12, the two same measurement hardware (2 board/set) and one measurement software] MX882022A CDMA2000 Wireless Application Test Software (requires MT8820A-03) MX882050A W-CDMA Call Processing Software* ² (requires MX882000B) MX882050A-02 W-CDMA External Packet Data* ^{2, *3} (requires MX882050A) MX882050A-03 W-CDMA Video Phone Test* ² (requires MX882050A) MX882050A-09 W-CDMA Band IX* ² (requires MX882050A) MX882050A-11 HSDPA External Packet Data* ² (requires MX882000B-11) MX882070A W-CDMA Ciphering Software* ² (requires MX882050A) MX882051A W-CDMA Call Processing Software* ² (requires MX882000B) MX882051A-02 W-CDMA External Packet Data* ² (requires MX882051A) MX882051A-03 W-CDMA Video Phone Test* ² (requires MX882051A) MX882071A W-CDMA Ciphering Software* ² (requires MX882051A)

Model/Order No.	Name
W2477AE	MX882000B operation manual* ⁴ (attached to MX882000B)
W2463AE	MX882001A operation manual* ⁴ (attached to MX882001A)
W2472AE	MX882002A operation manual* ⁴ (attached to MX882002A)
W2473AE	MX882003A operation manual* ⁴ (attached to MX882003A)
W2464AE	MX882004A operation manual* ⁴ (attached to MX882004A)
W2465AE	MX882005A operation manual* ⁴ (attached to MX882005A)
W2484AE	MX882022A operation manual* ⁴ (attached to MX882022A)
W2480AE	MX88205xA operation manual* ⁴ (attached to MX88205xA)
W2478AE	MX88207xA operation manual* ⁴ (attached to MX88207xA)
MT8820A-90	Warranty Extended three year warranty service
MT8820A-91	Extended five year warranty service
P0019	Application parts TEST USIM001* ⁵
P0027	W-CDMA/GSM Test USIM
A0012	Handset
J1249	CDMA2000 cable [D-sub (15 pin, P-type) · D-sub (15 pin, P-type), used in combination with J1267 (sold separately)]
J1267	CDMA2000 cross cable [D-sub (9 pin, P-type) · D-sub (9 pin, P-type), reverse cable, used in combination with J1249 (sold separately)]
J0576B	Coaxial cord (N-P · 5D-2W · N-P), 1 m
J0576D	Coaxial cord (N-P · 5D-2W · N-P), 2 m
J0127A	Coaxial cord (BNC-P · RG58A/U · BNC-P), 1 m
J0127C	Coaxial cord (BNC-P · RG58A/U · BNC-P), 0.5 m
J0007	GPIO cable, 1 m
J0008	GPIO cable, 2 m
MN8110B	I/O Adapter (for call processing I/O)
B0332	Joint plate (4 pcs/set)
B0333G	Rack mount kit
B0499	Carrying case (hard type, with protective cover and casters)
B0499B	Carrying case (hard type, with protective cover, without casters)
W2457AE	MT8820A operation manual (booklet)
W2476AE	MX882000B operation manual (booklet)
W2466AE	MX882001A operation manual (booklet)
W2470AE	MX882002A operation manual panel operation (booklet)
W2471AE	MX882002A operation manual remote control (booklet)
W2474AE	MX882003A operation manual panel operation (booklet)
W2475AE	MX882003A operation manual remote control (booklet)
W2467AE	MX882004A operation manual (booklet)
W2468AE	MX882005A operation manual (booklet)
W2482AE	MX882022A operation manual panel operation (booklet)
W2483AE	MX882022A operation manual remote control (booklet)
W2481AE	MX88205xA operation manual (booklet)
W2479AE	MX88207xA operation manual (booklet)

*1: The Measurement Hardwares applied to Parallel Phone Measurement are MT8820A-01, MT8820A-02, MT8820A-03, MT8820A-04. And these hardwares can be implemented all together.

*2: For terminal connectivity, contact your Anritsu sales representative.

*3: MX882050A preinstalls the integrity protection function.

*4: Supplied by CD-ROM

*5: This Test USIM can be worked on only W-CDMA mode.
When the connection of GSM is necessary, P0027 can be applied.

• Parallelphone™ is a registered trademark of Anritsu Corporation.

• CF® card is a registered trademark of SanDisk Corporation in the United States and is licensed to CFA (Compact Flash Association).



Specifications are subject to change without notice.

ANRITSU CORPORATION

5-1-1 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan
Phone: +81-46-223-1111
Fax: +81-46-296-1264

● U.S.A.

ANRITSU COMPANY

1155 East Collins Blvd., Richardson, TX 75081, U.S.A.
Toll Free: 1-800-ANRITSU (267-4878)
Phone: +1-972-644-1777
Fax: +1-972-671-1877

● Canada

ANRITSU ELECTRONICS LTD.

700 Silver Seven Road, Suite 120, Kanata,
Ontario K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

● Brazil

ANRITSU ELETROÔNICA LTDA.

Praca Amadeu Amaral, 27 - 1 Andar
01327-010-Paraiso-São Paulo-Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3288-6940

● U.K.

ANRITSU EMEA LTD.

200 Capability Green, Luton, Bedfordshire LU1 3LU, U.K.
Phone: +44-1582-433280
Fax: +44-1582-731303

● Germany

ANRITSU GmbH

Nemetschek Haus, Konrad-Zuse-Platz 1
81829 München, Germany
Phone: +49 89 442308-0
Fax: +49 89 442308-55

● France

ANRITSU S.A.

9, Avenue du Québec Z.A. de Courtabœuf 91951 Les
Ulis Cedex, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

● Italy

ANRITSU S.p.A.

Via Elio Vittorini, 129, 00144 Roma, Italy
Phone: +39-6-509-9711
Fax: +39-6-502-2425

● Sweden

ANRITSU AB

Borgafjordsgatan 13, 164 40 KISTA, Sweden
Phone: +46-853470700
Fax: +46-853470730

● Finland

ANRITSU AB

Teknobulevardi 3-5, FI-01530 Vantaa, Finland
Phone: +358-20-741-8100
Fax: +358-20-741-8111

● Denmark

Anritsu A/S

Kirkebjerg Allé 90 DK-2605 Brøndby, Denmark
Phone: +45-72112200
Fax: +45-72112210

● Singapore

ANRITSU PTE LTD.

10, Ho Chi Chiang Road, #07-01/02, Keppel Towers,
Singapore 089315
Phone: +65-62828-2400
Fax: +65-6282-2533

● P.R. China (Hong Kong)

ANRITSU COMPANY LTD.

Suite 923, 9/F., Chinachem Golden Plaza, 77 Mody Road,
Tsimshatsui East, Kowloon, Hong Kong, P.R. China
Phone: +852-2301-4980
Fax: +852-2301-3545

● P.R. China (Beijing)

ANRITSU COMPANY LTD.

Beijing Representative Office
Room 1515, Beijing Fortune Building,
No. 5, Dong-San-Huan Bei Road,
Chao-Yang District, Beijing 10004, P.R. China
Phone: +86-10-6590-9230
Fax: +86-10-6590-9235

● Korea

ANRITSU CORPORATION

8F Hyunjuk Building, 832-41, Yeoksam dong,
Kangnam-ku, Seoul, 135-080, Korea
Phone: +82-2-553-6603
Fax: +82-2-553-6604

● Australia

ANRITSU PTY LTD.

Unit 3/170 Forster Road, Mt. Waverley, Victoria, 3149,
Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

● Taiwan

ANRITSU COMPANY INC.

7F, No. 316, Sec. 1, Neihu Rd., Taipei 114, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817

● India

ANRITSU CORPORATION

India Liaison Office

Unit No. S-3, Second Floor, Esteem Red Cross Bhavan,
No. 26, Race Course Road, Bangalore 560 001, India
Phone: +91-80-30944707
Fax: +91-80-22356648

Please Contact: